

Amendment to the Claims:

Please amend the claims as follows:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for hydrolyzing α -glycosidic bonds capable of being hydrolyzed by a polypeptide having an α -galactosidase activity comprising:
contacting a compound having the α -glycosidic bond with an effective amount of ~~[[an enzyme]]~~ a polypeptide having at least a 70% amino acid identity to an amino acid sequence set forth in SEQ ID NO:4 and having α -galactosidase activity.

Claim 2 (currently amended): The method according to claim 1 wherein the ~~[[enzyme]]~~ polypeptide has at least 90% amino acid identity ~~to the amino acid sequence set forth in SEQ ID NO:4 and has α -galactosidase activity.~~

Claim 3 (currently amended): A ~~[[The]]~~ method ~~[[according to claim 1]]~~ of hydrolyzing α -glycosidic bonds comprising:
contacting a compound having the α -glycosidic bond with an effective amount of a polypeptide, wherein the polypeptide ~~[[wherein the enzyme]]~~ comprises a sequence having ~~[[of]]~~ at least 30 amino acids identical to a contiguous region of amino acids 1 to 364 of SEQ ID NO:4 and has α -galactosidase activity.

Claim 4 (currently amended): The method according to claim 1 wherein the ~~[[enzyme]]~~ polypeptide has the amino acid sequence as set forth in SEQ ID NO: 4.

Claim 5 (currently amended): The method according to claim 1 wherein the ~~[[enzyme]]~~ polypeptide is recombinantly produced.

Claim 6 (previously presented): The method according to claim 1 wherein the compound having the α -glycosidic bond is raffinose.

Claim 7 (currently amended): The method according to claim 6 wherein the [[α -glycosidic bond]] raffinose is in raw beet sugar.

Claim 8 (currently amended): The method according to claim 1 wherein the compound [[is]] comprises raffinose, stachyose, verbascose, or a combination thereof.

Claim 9 (previously presented): The method according to claim 8 wherein the compound is contained in a member of the lentil or bean family, or both.

Claim 10 (original): The method according to claim 1 wherein the contacting is at a temperature of about 85°C.

Claim 11 (original): The method according to claim 1 wherein the contacting is at a pH of about 9.5.

Claim 12 (original): The method according to claim 1 wherein the contacting is at a temperature of about 85°C and a pH of about 9.5.

Claim 13 (previously presented): The method according to claim 1 wherein the α -glycosidic bond is an α -1,6 galactosyl bond or an α -1,6 galactosidic bond.

Claim 14 (currently amended): The method according to claim 1 wherein the [[enzyme]] polypeptide has at least 95% amino acid identity ~~to the amino acid sequence set forth in SEQ ID NO:4 and has α -galactosidase activity.~~

Claim 15 (currently amended): The method according to claim 3 [[1]] wherein the [[enzyme]] polypeptide comprises a sequence having [[of]] at least 50 amino acids identical to a contiguous region of amino acids 1 to 364 of SEQ ID NO:4 ~~and has α -galactosidase activity.~~

Claim 16 (new): The method according to claim 1 wherein the polypeptide has at least 97% amino acid identity ~~to the amino acid sequence set forth in SEQ ID NO:4 and has α -galactosidase activity.~~

Claim 17 (new): A method for hydrolyzing α -glycosidic bonds capable of being hydrolyzed by a polypeptide having an α -galactosidase activity comprising:

(a) providing a polypeptide having an α -galactosidase activity, wherein the polypeptide is encoded by a nucleic acid that hybridizes to SEQ ID NO:3, or its complementary strand, under conditions comprising hybridization conditions of 6X SSC, 5X Denhardt's reagent, 0.5% SDS, 100 μ g denatured salmon sperm DNA, and 25% to 50% formamide at 42°C and wash conditions of 6X SSC, 0.5% SDS at 50°C; and

(b) contacting a compound having the α -glycosidic bond with an effective amount of the polypeptide, thereby hydrolyzing α -glycosidic bonds.

Claim 18 (new): A method for hydrolyzing α -glycosidic bonds capable of being hydrolyzed by a polypeptide having an α -galactosidase activity comprising:

(a) providing a polypeptide having an α -galactosidase activity, wherein the polypeptide comprises a sequence as set forth in SEQ ID NO:4 or a sequence as set forth in SEQ ID NO:4 having one or more conservative amino acid substitutions, wherein a conservative amino acid substitution comprises substitution of one hydrophobic amino acid for another, or comprises substitution of one polar amino acid for another, or comprises substitution of arginine for lysine, glutamic acid for aspartic acid or glutamine for asparagine; and

(b) contacting a compound having the α -glycosidic bond with an effective amount of the polypeptide, thereby hydrolyzing α -glycosidic bonds.

Claim 19 (new): The method of claim 17, wherein the hydrophobic amino acid comprises an isoleucine, a valine, a leucine or a methionine.

Claim 20 (new): A method for hydrolyzing α -glycosidic bonds capable of being hydrolyzed by a polypeptide having an α -galactosidase activity comprising:

(a) providing a polypeptide having an α -galactosidase activity, wherein the polypeptide comprises at least 30 amino acids of a portion of a sequence having at least 70% amino acid identity to an amino acid sequence as set forth in SEQ ID NO:4; and

(b) contacting a compound having the α -glycosidic bond with an effective amount of the polypeptide.

Claim 21 (new): The method of claim 20, wherein the polypeptide comprises at least 50 amino acids of a portion of a sequence having at least 70% amino acid identity to an amino acid sequence as set forth in SEQ ID NO:4.

Claim 22 (new): The method of claim 21, wherein the polypeptide comprises at least 80% amino acid identity.

Claim 23 (new): The method of claim 22, wherein the polypeptide comprises at least 90% amino acid identity.

Claim 24 (new): The method of claim 23, wherein the polypeptide comprises at least 95% amino acid identity.

Claim 25 (new): The method according to claim 1 wherein the polypeptide has at least 80% amino acid identity.

Claim 26 (new): The method of claim 1, claim 17, claim 18, or claim 20, wherein the compound is a food.

Claim 27 (new): The method of claim 17, claim 18, or claim 20, wherein the α -glycosidic bond is an α -1,6 galactosyl bond or an α -1,6 galactosidic bond.